

REMARKS

Claim 1 has been amended. Claims 19-25 have been withdrawn from further consideration as being directed to a nonelected invention. Thus, claims 1-25 are pending in the present application, with claims 1-18 currently under consideration. No new matter has been added. Reconsideration and withdrawal of the present rejections in view of the comments presented herein are respectfully requested.

Missing Priority Document

The Examiner states that the certified copy of the foreign priority application has not been received, and needs to be submitted. As noted in the Declaration, priority is not being claimed to the corresponding Japanese patent application (No. 2002-103797). Thus, Applicant is not required to submit a certified copy of this application.

Rejection under 35 U.S.C. § 112, second paragraph.

Claims 2-4, 11 and 15 were rejected as allegedly being incomplete for omitting essential elements. The Examiner suggested amending the rejected claims to recite "the second *or* third layer", or deleting "at least" from claim 1. Claim 1 as amended no longer recites "at least", thus overcoming the rejection.

In view of the comments presented above, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

Rejection under 35 U.S.C. § 102(b)

Claims 1, 3, 14 and 16-18 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Yoshida et al. (US 2001/0005560).

Firstly, Applicant notes that Yoshida discloses a separator for a lithium ion battery, not a fuel cell separator as recited in the present claims. These two types of separators are very different. As noted in the present specification at page 7, the fuel cell separator is electrically conductive and non-permeable to gas and liquid. Claim 1 recites a "metal substrate," which necessarily has these properties. In contrast, the separator of a lithium ion battery is electrically non-conductive to avoid a short circuit between positive and negative electrodes, and is porous to

allow ions to move across the separator. Accordingly, the metal substrate recited in the rejected claims is not disclosed by Yoshida.

Moreover, the metal substrate recited in the rejected claims would not even be suggested by Yoshida. As noted above, Yoshida's teaching of a lithium ion battery separator requires an electrically non-conductive and porous separator, which would preclude a metal separator.

In addition, present claim 1 recites that the third layer is formed in an interface with the metal substrate, which means that the third layer contacts the metal substrate. Since Yoshida et al. does not disclose a metal substrate, then they also do not disclose that the third layer contacts a metal substrate.

Moreover, present claim 1 recites a resin conductive layer. Such a conductive layer is neither disclosed nor suggested by Yoshida et al. The Examiner alleges that the separator disclosed by Yoshida et al has a "resin conductive layer as a mixture of resin and conductive filler", and that "the components for forming the second porous layer 3b ("first layer") may be an organic powder ("conductive filler") mixed with an organic polymer." However, the organic polymer described by Yoshida et al. is non-conductive. At paragraph [0026], Yoshida discloses that "[The particles may be the one which is non-conductive and insoluble to the electrolyte. Organic or inorganic materials such as silica, alumina, titanium oxide or clay may be used without limitation."

Yoshida neither discloses nor suggests any powder that has sufficient conductivity to render the volume resistance of the layers less than 1.0 Ω -cm or less as presently claimed. At page 5 of the Office Action, the Examiner alleges that "Yoshida does not specifically recite that the second layer 3b ("first layer") has a volume resistance of 1.0 Ω -cm or less; however, it is the position of the examiner that the volume resistance is inherent given that the materials disclosed for the second layer 3b ("first layer") by Yoshida (paragraph 25) and the materials used in the present application are of the same make-up." However, as noted above, the materials recited in the present claims are not the same as those disclosed by Yoshida et al. (conductive filler vs. non-conductive filler). It is also well known in the field of lithium ion batteries that a separator having such a low resistance as recited in the present claims cannot be used in a lithium ion battery.

Thus, the claimed fuel cell separator and the separator for a lithium ion battery disclosed by Yoshida et al. are completely different, require different materials, and operate based on different principles.

In view of the comments presented above, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b)

Rejections under 35 U.S.C. § 103(a)

The Examiner rejected the various dependent claims under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yoshida et al. as described above, in combination with various secondary references (Ooma, US 2003/0262079; Takano et al., US 6,544,680); Kitade (US 2003/0129471); Takao (US 2002/0160248); and Yamashita et al. (US 6,287,720).

None of the secondary referenced provide the features which are missing from the disclosure of Yoshida, namely the conductive layer and metal substrate. In addition, one or ordinary skill in the art would never modify a separator for a lithium ion battery to arrive at the claimed fuel cell separator. As discussed above, the requirements for a lithium ion battery are quite distinct from those of a fuel cell separator. As a result, Yoshida's teaching of a lithium ion battery actually teaches away from a metal substrate, which is both electrically conductive and impermeable to gas and liquid. As discussed above, a lithium ion battery separator is required to be electrically non-conductive and porous. Accordingly, it would be improper to combine Yoshida's teachings with any other disclosure, since this would greatly impair the function of the separator for a lithium ion battery. Thus, claims 1-18 are not obvious in view of Yoshida et al. alone, or in combination with any of the secondary references.

In view of the comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a).

Request for rejoinder

In accordance with M.P.E.P. § 821.04, Applicants hereby request rejoinder and examination of non-elected method claims 19-25 when claims 1-18 are found to be allowable.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

CONCLUSION

Applicants submit that all claims are now in condition for allowance. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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